INTRA-AUTOMATION GmbH

MESS - UND REGELINSTRUMENTE

elektronische Meß- und Regelinstrumente

INT 5333

2-wire programmable transmitter

2-WIRE PROGRAMMABLE TRANSMITTER

INT 5333

Contents

Safety instructions

- **Ex installation:**

  For a safe installation of 5333B in hazardous area the following must be observed. The module must only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

2-WIRE PROGRAMMABLE TRANSMITTER
INT 5333

- *RTD or Ohm input*
- *High measurement accuracy*
- *3-wire connection*
- *Programmable sensor error value*
- *For DIN form B sensor head mounting*

Application:

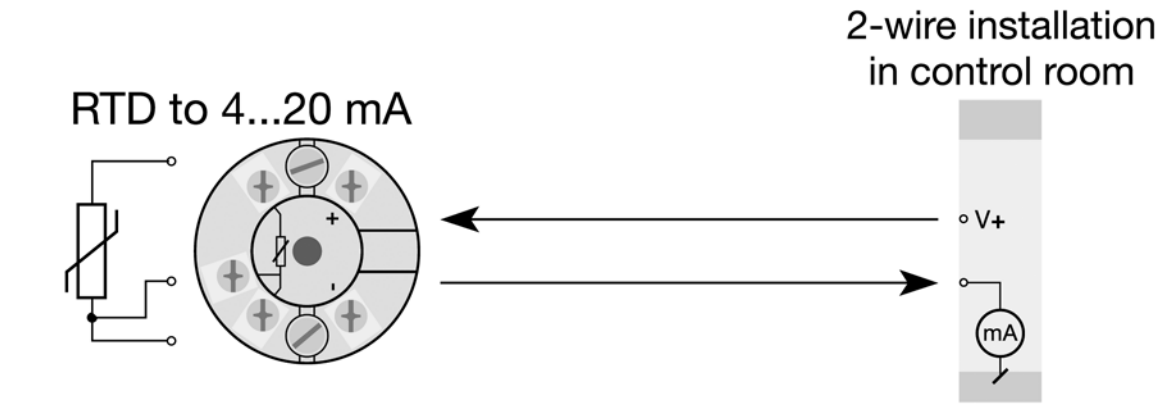
- Linearised temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.

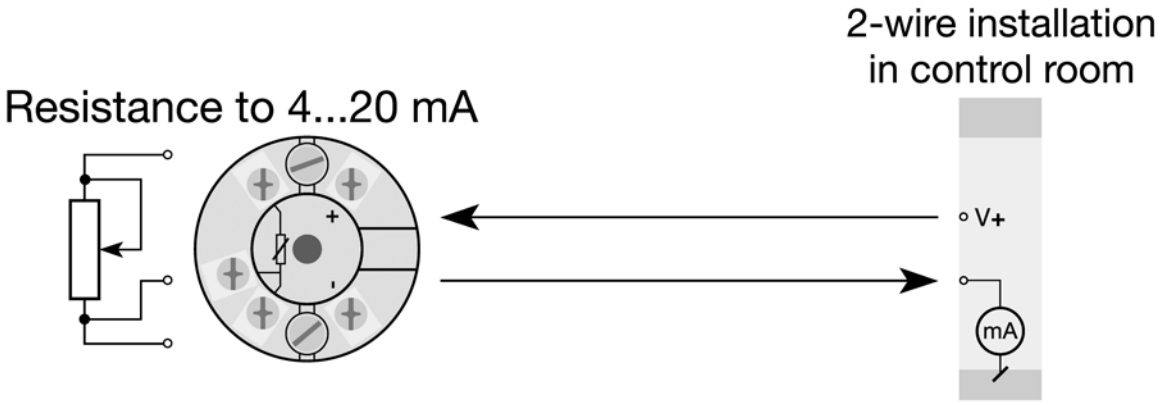
Technical characteristics:

- Within a few seconds the user can program 5333 to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 2 and 3-wire connection.

Mounting / installation:

- For DIN form B sensor head or DIN rail mounting with a special fitting.


2-wire installation
in control room
RTD to 4...20 mA
V+
mA


2-wire installation
in control room
Resistance to 4...20 mA
V+
mA

Order: 5333 __

Type	Version
5333	EEx : B

Electrical specifications:

Specifications range:

-40°C to +85°C

Common specifications:

Supply voltage, DC ..... 8...28 VDC
Internal consumption..... 25 mW...0.8 W
Voltage drop ..... 8 VDC
Warm-up time..... 5 min.
Communications interface ..... Loop Link 5905
Signal/noise ratio..... Min. 60 dB
Response time (programmable) ..... 0.33...60 s
Signal dynamics, input ..... 19 bit
Signal dynamics, output..... 16 bit
Calibration temperature..... 20...28°C
Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
All	≤ ±0.1% of span	≤ ±0.01% of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
RTD	≤ ±0.3°C	≤ ±0.01°C / °C
Lin.R	≤ ±0.2 Ω	≤ ±20 mΩ / °C

EMC immunity influence ..... ≤ ±0.5% of span

Effect of supply voltage variation..... ≤ 0,005% of span / VDC
Vibration..... IEC 68-2-6 Test FC
Lloyd's specification no. 1..... 4 g / 2...100 Hz
Max. wire size..... 1 x 1.5 mm2
Humidity ..... < 95% RH (non-cond.)
Dimensions..... Ø 44 x 20.2 mm
Tightness (enclosure/terminal)..... IP68 / IP00
Weight..... 50 g

Electrical specifications, input:

RTD type	Min. value	Max. value	Min. span
Pt100	-200°C	+850°C	25°C
Ni100	-60°C	+250°C	25°C
Lin.R	0 Ω	10000 Ω	30 Ω

RTD and linear resistance input:

Max. offset..... 50% of selec. max. value
Cable resistance per wire (max.)..... 10 Ω
Sensor current..... > 0.2 mA, < 0.4 mA
Effect of sensor cable resistance
(3-wire)..... < 0.002 Ω/ Ω
Sensor error detection..... Yes

Output:

Current output:

Signal range..... 4...20 mA
Min. signal range..... 16 mA
Updating time..... 135 ms
Load resistance..... ≤ (Vsupply- 8) / 0.023 [Ω]
Load stability..... < ±0.01% of span/100 Ω

Sensor error detection:

Programmable	3.5...23 mA
NAMUR NE43 Upscale	23 mA
NAMUR NE43 Downscale	3.5 mA

Ex data:

U_i	28 VDC
I_i	120 mADC
P_i	0.84 W
L_i	≤ 10 µH
C_i	≤ 1 nF

EEx approval CENELEC:

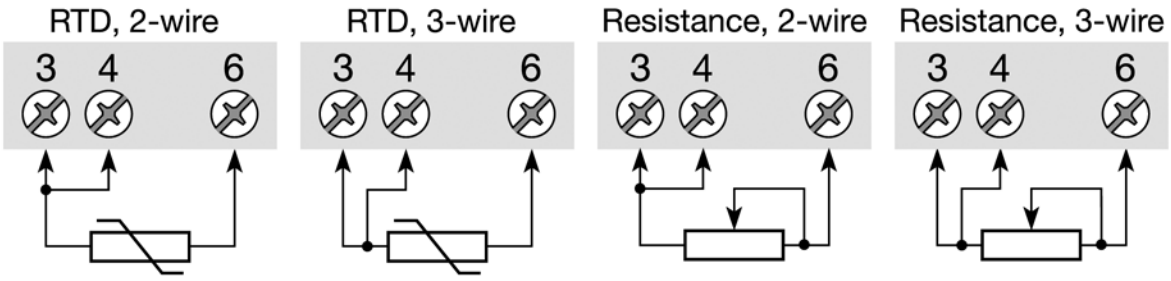
DEMKO 03	ATEX 134705
ATEX	0539 ⟨Ex⟩ II 1 G
	EEx ia IIC T1...T6
Max. amb. temperature for T1...T4	85°C
Max. amb. temperature for T5 and T6	60°C
Applicable in zone	0, 1 or 2
FM	IS, CL. I, DIV. 1, GP. A-D
Entity, FM Control Drawing No.	5300Q502

Observed authority requirements:	**Standard:**
EMC 89/336/EEC, Emission	EN 50 081-1, EN 50 081-2
Immunity	EN 50 082-2, EN 50 082-1
ATEX 94/9/EC	EN 50 014 and EN 50 020
FM Class Number	3600, 3610

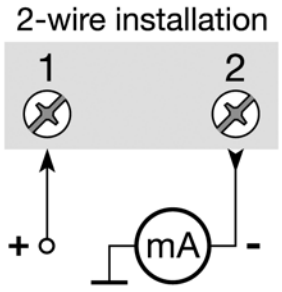
Of span = Of the presently selected range

Connections:

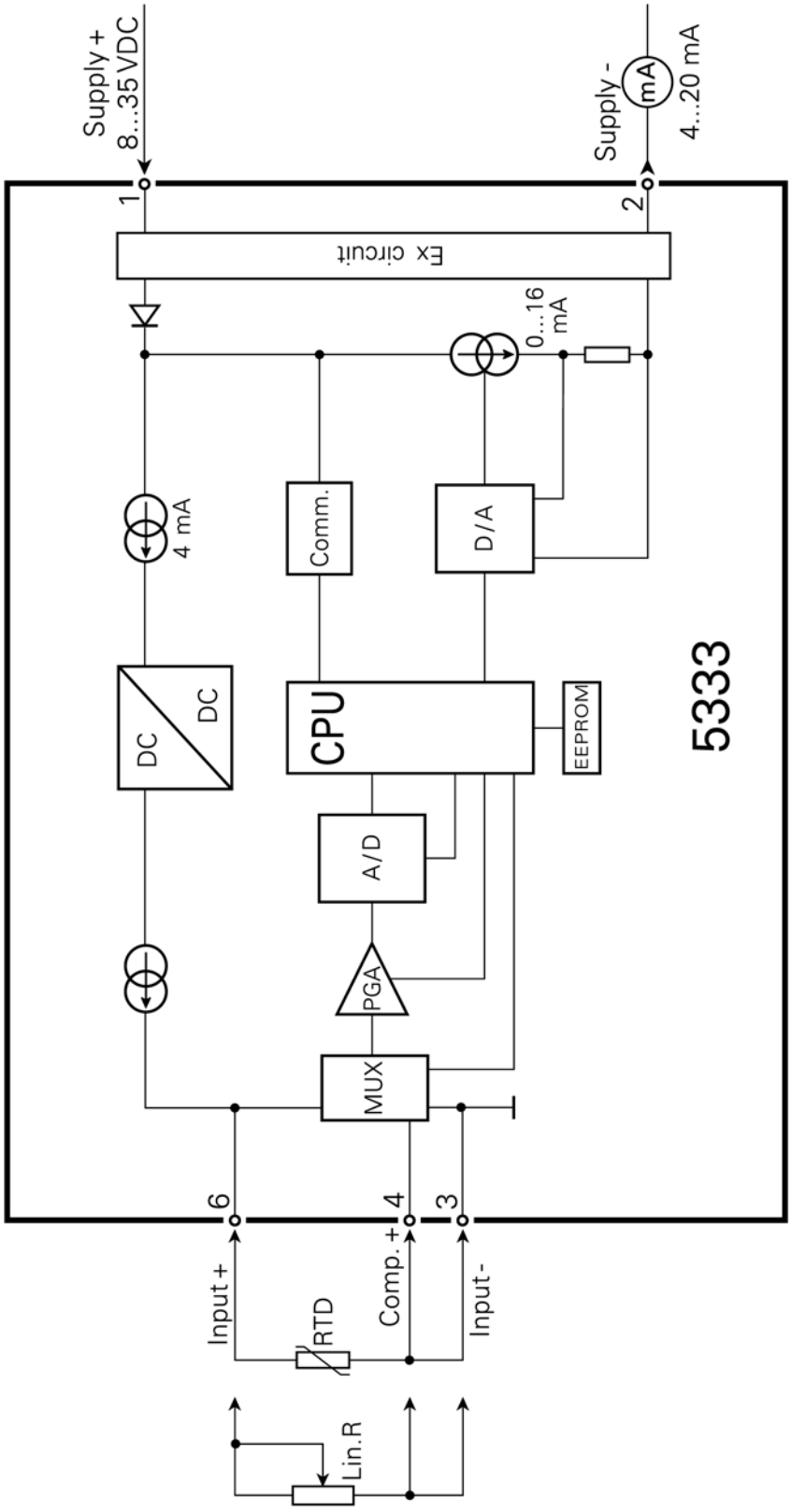
Input:



Output:

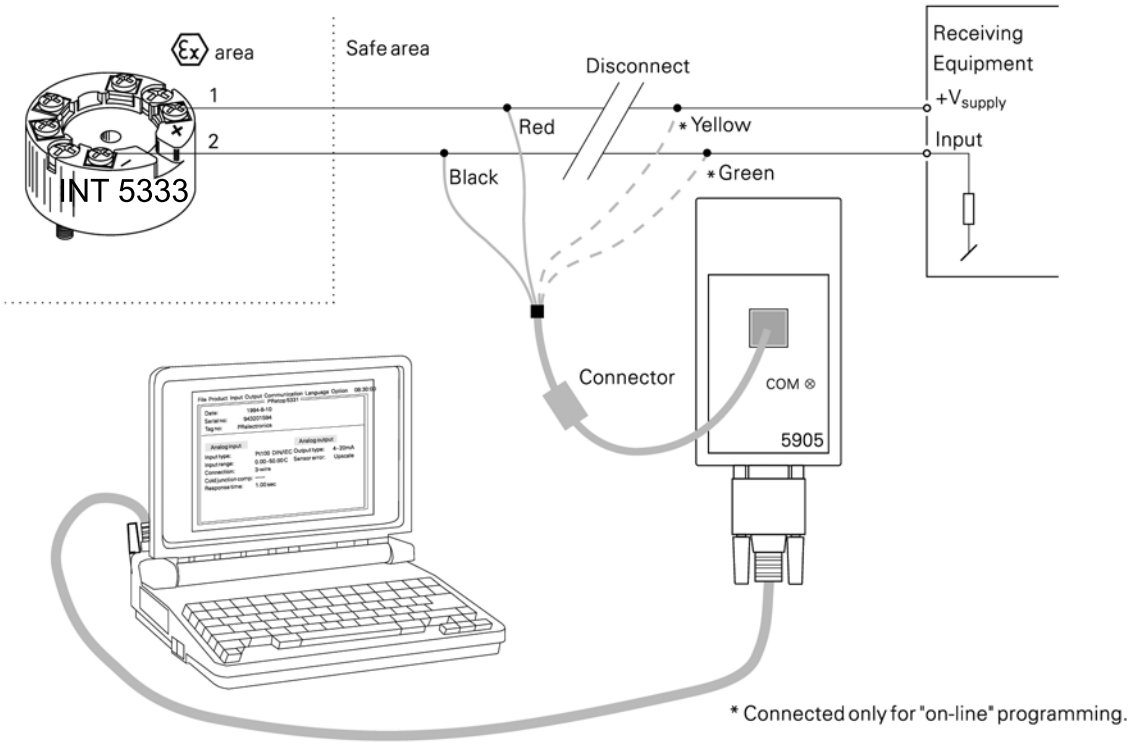


BLOCK DIAGRAM:

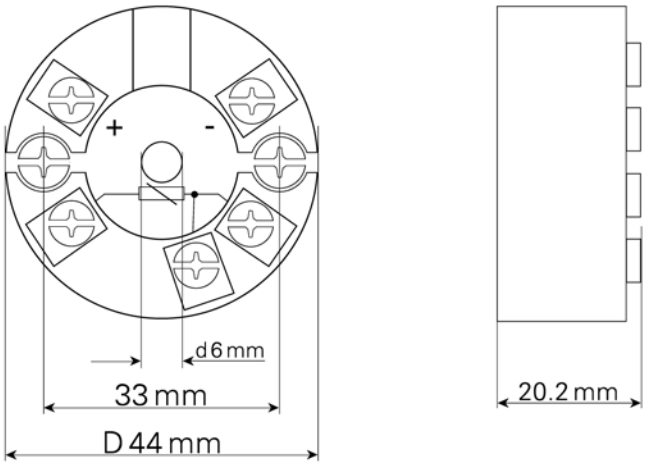


Programming:

- Loop Link 5905 is a battery-powered communications interface that is needed for programming 5333.
- For programming please refer to the drawing below and the help functions in Configuration - Program.



Mechanical specifications:



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